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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,177	07/06/2000	Howard Barr	SPIRIT.001A	5600

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EXAMINER	
DINH, TIEN QUANG	
ART UNIT	PAPER NUMBER
3644	

DATE MAILED: 10/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/611,177	BARR, HOWARD
	Examiner T. Dinh	Art Unit 3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM

THE MAILING DATE OF THIS COMMUNICATION.

Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 18-40 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 18-40 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.

- 4) Interview Summary (PTO-413) Paper No(s). ____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: _____

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities: Please note that there is no mentioning of figure 8 in the brief description of the drawings. Figure 8 has not been submitted. Please submit this.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18, 24, 26, 27, 32-34, 36, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins in view of Berejik et al.

Jenkins discloses a control system for a remote-controlled aircraft with a receiver 26, a control module 35 in communication with the receiver to send out signal to a control flight system, and positioning module 15 (see figure 1, column 3, lines 37-40). The control module is a microprocessor/microcontroller with inherently memory such as RAM (well known in today's computer technology) to store instructions. The control flight system is a servo, rudder, elevator, etc. Although, the Examiner strongly feels that the control modules modifies the control signals so that the flight pattern is within a

set of defined performance parameters, the Examiner will introduce the teaching of Berejik et al (previously cited by the applicant) to show that control modules that modifies control signals to a set of defined performance parameters (see figure 3 and columns 4 and 5).

It would have been obvious to one skilled in the art at the time the invention was made to have made the control module of Jenkins modifies the control signals to a set of safe defined performance parameters as taught by Berejik et al to allow the aircraft to operate safely without crashing.

Claims 19-21, 23, 25, 29-31, 35, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins as modified by Berejik et al as applied to claims 18, 24, and 34 above, and further in view of Meyer.

Jenkins as modified by Berejik et al discloses all claimed parts of the invention but is silent on the pulse-width modulated signals and the modified guidance signals to the control system that result in the aircraft entering a predetermined flight pattern in case of an emergency or any other situations. However, Meyer discloses that pulse-width modulated signals and signals to change the flight pattern of the aircraft to a predetermined flight pattern in case of emergency or any other situations are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used pulse-width modulated signals and a computerized system in which modified guidance signals to change the flight pattern of the aircraft to a predetermined

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flight pattern in case of an emergency or any other situations in Jenkins' system as modified by Berejik et al and as taught by Meyer to allow the aircraft to fly as desired and to prevent the aircraft from crashing.

Re claims 19, 29, and 39, a straight and level flight is a desired pattern that one skilled in the art could have implemented on the aircraft so that the aircraft can fly to the desired point without causing danger to the aircraft.

Re claim 31, it is obvious to one skilled in the art at the time the invention was made to have made the pulse-width modulated signals aligned with the leading edge to allow the aircraft to fly as desired by the pilot.

Re claim 40, at the time the invention was made, it would have been obvious to one skilled in the art to have the aircraft be in a level flight circular pattern to allow the aircraft be in a desired area so that the aircraft can not be lost.

Re claims 20, 21, at the time the invention was made, it would have been obvious to one skilled in the art to have the aircraft not turn at an angle greater than 20, 30, 40, 50, 69, 70, 80, and 90 to prevent a certain aircraft be out of control.

Claims 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins as modified by Berejik et al and Meyer as applied to claims 18, 20 above, and further in view of Hulsing.

Jenkins as modified by Berejik et al and Meyer discloses all claimed parts of the invention except for the accelerometer. However, Hulsing discloses that accelerometers are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used an accelerometers in Jenkins' system as modified by Berejik et al and Meyer as taught by Hulsing to allow the aircraft to determine its acceleration.

Claims 28 and 38 arerejected under 35 U.S.C. 103(a) as being unpatentable over Jenkins as modified by Berejik et al, as applied to claims 24 and 34 above, and further in view of Hulsing.

Jenkins as modified by Berejik et al discloses all claimed parts of the invention except for the accelerometer. However, Hulsing discloses that accelerometers are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used an accelerometers in Jenkins' system as modified by Meyer and as taught by Hulsing to allow the aircraft to determine its acceleration.

Response to Arguments

In response to applicant's argument on the 35 U.S.C. 102 rejection, the Examiner has introduce Berejik et al into the rejection so as to prove that autopilots/control system modifies the control signals are well known in the art. This renders applicant's arguments moot.

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some reason why one skilled in the art would be motivated to make

the proposed combination of primary and secondary references. *In re Nomiya*, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articulated. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971), references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA) 1969. In this case, Meyers teaches the use of pulse width modulated signals and entering a predetermined flight pattern in case of emergency are well known. Therefore it would have been obvious to combine the Meyer reference with the Jenkins reference as modified by Berejik et al to create a safer aircraft system.

As for the argument of claim 31, please note that when the aircraft performs certain maneuvers, the servo to control the control surfaces must be moved simultaneously (such as right and left ailerons to control roll). Therefore, it would have been obvious to one skilled in the art to have aligned the signals in Jenkin's system as modified by Berejik et al and Meyer so that the aircraft performs the necessary maneuvers to accomplish its missions and to fly safely.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. Dinh whose telephone number is 703-308-2798.

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The examiner can normally be reached on Monday Through Friday 8-6, alternate Monday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703-306-4159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-306-4195 for regular communications and 703-306-4195 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4177.

T. Dinh
Examiner
Art Unit 3644

TD
October 1, 2002

*T. Dinh
10/01/02*